WHAT IS CLAIMED IS:

1. An ozone water for use in cleaning semiconductor substrates, comprising water containing an amount of ozone, in which

said water is added with an organic solvent containing an amount of organic carbon capable of suppressing a reduction of the half-life period of ozone.

2. An ozone water for use in cleaning semiconductor substrates in accordance with claim 1, in which the amount of said organic solvent to be added is in a range of 0.1μg/liter to 0.1g/liter.

3. An ozone water for use in cleaning semiconductor substrates in accordance with claim 1 or 2, in which said organic solvent is ethanol or isopropyl alcohol.

4. An ozone water for use in cleaning semiconductor substrates in accordance with claim 1 or 2, in which said water is an ultra-pure water.

5. An ozone water for use in cleaning semiconductor substrates in accordance with claim 3, in which said water is an ultra-pure water.

6. A production method of an ozone water for use in cleaning semiconductor substrates, comprising:

an ozone water production step for dissolving an ozone gas in water to produce an ozone water; and

a solvent adding step for adding an organic solvent containing an amount of organic carbon capable of suppressing the reduction of the half-life period of ozone to said water.

7. A production method of an ozone water for use in cleaning semiconductor substrates in accordance with claim 6, in which the amount of said organic solvent to be added is in a range of 0.1μg/liter to 0.1g/liter.

8. A production method of an ozone water for use in cleaning semiconductor substrates in accordance with claim 6 or 7, in which said organic solvent is ethanol or isopropyl alcohol.

9. A production method of an ozone water for use in cleaning semiconductor substrates in accordance with claim 6 or 7, in which said water is an ultra-pure water.

10. A production method of an ozone water for use in cleaning semiconductor substrates in accordance with claim 8, in which said water is an ultra-pure water.

11. A production method of an ozone water for use in cleaning semiconductor substrates in accordance with any one of claim 6, 7 and 10, in which said ozone is obtained by the silent discharge process in which ozone is generated from an oxygen gas or by the electrolytic process in which water is electrolyzed to generate ozone.

12. A production method of an ozone water for use in cleaning semiconductor substrates in accordance with claim 8, in which said ozone is obtained by the silent discharge process in which ozone is generated from an oxygen gas or by the electrolytic process in which water is electrolyzed to generate ozone.

13. A production method of an ozone water for use in cleaning

semiconductor substrates in accordance with claim 9, in which said ozone is obtained by the silent discharge process in which ozone is generated from an oxygen gas or by the electrolytic process in which water is electrolyzed to generate ozone.

14. A production method of an ozone water for use in cleaning semiconductor substrates in accordance with any one of claim 6, 7, 10, 12 and 13, in which said adding step for adding said organic solvent to the water is performed through a porous polymer membrane having water repellency.

15. A production method of an ozone water for use in cleaning semiconductor substrates in accordance with claim 8, in which said adding step for adding said organic solvent to the water is performed through a porous polymer membrane having water repellency.

16. A production method of an ozone water for use in cleaning semiconductor substrates in accordance with claim 9, in which said adding step for adding said organic solvent to the water is performed through a porous polymer membrane having water repellency.

17. A production method of an ozone water for use in cleaning semiconductor substrates in accordance with claim 11, in which said adding step for adding said organic solvent to the water is performed through a porous polymer membrane having water repellency.

18. A cleaning method of semiconductor substrates comprising:

an ozone water production step for dissolving an ozone gas in water to produce an ozone water;

a solvent adding step for adding an organic solvent containing

an amount of organic carbon capable of suppressing the reduction of the half-life period of ozone to said water; and

a cleaning step for cleaning a semiconductor substrate with said ozone water added with said organic solvent.

19. A cleaning method of semiconductor substrates in accordance with claim 18, in which the amount of said organic solvent to be added is in a range of 0.1μg/liter to 0.1g/liter.

20. A cleaning method of semiconductor substrates in accordance with claim 18 or 19, in which said organic solvent is ethanol or isopropyl alcohol.

21. A cleaning method of semiconductor substrates in accordance with claim 18 or 19, in which said water is an ultra-pure water.

22. A cleaning method of semiconductor substrates in accordance with claim 20, in which said water is an ultra-pure water.

23. A cleaning method of semiconductor substrates in accordance with any one of claim 18, 19 and 22, in which said ozone is obtained by the silent discharge process in which ozone is generated from an oxygen gas or by the electrolytic process in which water is electrolyzed to generate ozone.

24. A cleaning method of semiconductor substrates in accordance with claim 20, in which said ozone is obtained by the silent discharge process in which ozone is generated from an oxygen gas or by the electrolytic process in which water is electrolyzed to generate ozone.

25. A cleaning method of semiconductor substrates in accordance with claim 21, in which said ozone is obtained by the silent discharge process in which ozone is generated from an oxygen gas or by the electrolytic process in which water is electrolyzed to generate ozone.

26. A cleaning method of semiconductor substrates in accordance with any one of claim 18, 19, 22, 24 and 25, in which said adding step for adding said organic solvent to the water is performed through a porous polymer membrane having water repellency.

27. A cleaning method of semiconductor substrates in accordance with claim 20, in which said adding step for adding said organic solvent to the water is performed through a porous polymer membrane having water repellency.

28. A cleaning method of semiconductor substrates in accordance with claim 21, in which said adding step for adding said organic solvent to the water is performed through a porous polymer membrane having water repellency.

29. A cleaning method of semiconductor substrates in accordance with claim 23, in which said adding step for adding said organic solvent to the water is performed through a porous polymer membrane having water repellency.